

C2 8. (Twice Amended) The nanocomposite of claim 1, wherein the layered clay material comprises organic cation-treated sodium montmorillonite or organic cation-treated sodium bentonite.

C3 9. (Once Amended) The nanocomposite of claim 1, wherein at least about 50 percent of the layered clay material is dispersed in the form of individual platelet particles and tactoids in the matrix polymer and the individual platelet particles have a thickness of less than about 2 nm and a diameter of from about 10 to about 3000 nm.

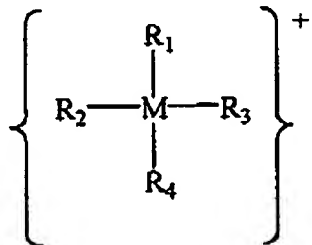
10. (Once Amended) The nanocomposite of claim 1, wherein the layered clay material has less than about 1.0 % by weight of quartz particles.

C4 12. (Once Amended) The nanocomposite of claim 7, wherein the organic cation is derived from ammonium salt compound.

C5 13. (Twice Amended) The nanocomposite of claim 1, wherein the melt-processible matrix polymer comprises poly(*m*-xylylene adipamide) or a copolymer thereof, and the clay material comprises organic cation-treated sodium montmorillonite or organic cation-treated sodium bentonite.

Please add the following new claims.

C4 32. (New Claim) The nanocomposite of claim 1, wherein the layered clay material has been treated with an organic cation having the formula:



(I)

wherein M is either nitrogen or phosphorous; and R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are independently organic and/or oligomeric ligands or hydrogen.

33. (New Claim) The nanocomposite of claim 1, wherein the layered clay material has been treated with an alkyl or alkoxyated ammonium cation.

34. (New Claim) The article of claim 14 in the form of a film, sheet, pipe, an extruded article, a molded article, a molded container or bottle, wherein the article has a gas permeability which is at least about 10 percent lower than that of an article formed from a clay-free polymer.